REMARKS

The applicant respectfully requests reconsideration in view of the amendment and the following remarks. Support for amended claim 1 can be found in the specification at page 2, lines 26-29.

Claims 1, 2, 4, 6, 9-16, 18 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuazon et al., Journal of Atmospheric Chemistry 17:179-199, 1993 (Tuazon). Claims 3, 5, 7, 8, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuazon. The applicant respectfully traverses these rejections.

The applicant has a much larger concentration of $CHClF_2$ as compared to Tuazon.

Concentration of $CHClF_2$ in Tuazon is as follows:

Tuazon discloses at the top of page 181 line 2 that the initial "the initial Cl_2 and HFC or HCFC concentrations were (in molecules cm^{-3} units): Cl_2 ($1.2 - 16 \times 10^{14}$ molecules /cm^3 in air"

Calculation of concentration

Avogadro's constant:

1 mol = 6×10^{23} molecules (in 22.4 liters)

↓

2.6×10^{22} molecules (in 1 liter)

conversion $(1\ m)^3 = (1{,}000$ liters)

($1 \times 10^6\ cm^3 = 1 \times 10^3$ (liter))

1×10^3 cm^3/liter

↓

2.6×10^{19} molecules in 1 cm^3.

Thus, pure $CHClF_2$ has 2.6×10^{19} molecules of $CHClF_2$ per cm^3.

Tuazon has 1.2 to 16×10^{14} molecules of $CHClF_2$ per cm^3.

The applicant's reaction mixture:

According to [0011] of the applicant's published specification (US 2007/0197826), the concentration of HFC-22 (which is $CHClF_2$) is at least 5 mol-%. The pressure is preferably at least 1 bar (abs.), [0009].

Thus, **in the applicant's reaction mixture**, the concentration of $CHClF_2$ is at least 2.6×10^{19} molecules in 1 cm^3, multiplied by 0.05 = **1.3×10^{18} molecules in 1 cm^3.**

Thus, the applicant's concentration is **at least 0.8×10^3 higher** (if Tuazon applies the upper limit of 16×10^{14} molecules in 1 cm^3 (1.3×10^{18} molecules in 1 cm^3/ 16×10^{14} molecules in 1 cm^3). If one of ordinary skill in the art applies the lower concentration of Tuazon (1.2×10^{14} molecules in 1 cm^3) the applicant's concentration is over a factor of 10 greater (1×10^4). Therefore, Tuzaon teaches away from the applicant's claimed invention.

The applicant believes that one of ordinary skill in the art could not optimize the range of Tuazon to fall within the applicant's claimed invention since Tuazon teaches a range ($1.2 - 16 \times 10^{14}$ molecules /cm^3 in air) and this range teaches away from the applicant's claimed invention. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13146-00004-US from which the undersigned is authorized to draw.

Dated: September 9, 2009

Respectfully submitted,

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